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## PATENT SPECIFICATION

718.332



Date of application and filing Complete Specification: September 11, 1952

No. 22813/52

Application made in Germany on September 12, 1951

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Index at acceptance: —Class 130, C1(A4: C1). D1(F: H)

CORRECTION OF CLERICAL ERRORSPECIFICATION NO. 719,332

The following correction is in accordance with the Decision of the Superintending Examiner, acting for the Comptroller-General, dated the twentyeighth day of March, 1955.

Page 2, line 94, for "250 to 280°C" read "250 to 280°F".

THE PATENT OFFICE,  
16th April, 1955

DB 76342/1(9)/3355 100 4/55 R

of such plugs and particularly to plugs or  
tips of cylindrical form and with a hull or  
15 wrapping, such plugs or tips being suitable  
for cigarettes, cigars, cigarillos or the like.  
Such plugs or tips are used in order to be  
able to smoke cigarettes, cigars, cigarillos or  
the like without damage to the health or to  
20 save tobacco. As is known, such filter plugs,  
with or without hulls or wrappers, are dis-  
posed preferably at the rear end of the  
tobacco body to be smoked or are brought  
into connection therewith. Thus for ex-  
25 ample filters are known with essentially  
straight smoke passages which comprise  
spirally coiled crepe paper, as well as those  
in which additionally, in like manner, there  
is rolled between the turns a second layer  
30 for example of cotton wool. Another type of  
filter mouthpiece with essentially coiled  
smoke passages is such that for example in  
a paper mouthpiece a plug, especially of  
fibrous material of various types, is inserted,  
35 like wadding, cotton wool, bast fibres, paper,  
web-like fibrous substances, canvas, cellu-  
lose, asbestos or also sponge, viscose sponge  
or wood wool or carbon. In this case the  
said substances may additionally be treated  
40 with chemical media in order to absorb from  
the smoke the components which are objec-  
tional to the smoker, such for example as  
nicotine, ammonia or the like.

The production of these plugs is in  
45 general complicated, whether they are rolled,  
coiled, gummed or formed to a cord or  
several components are laid together and  
twisted. The devices for this purpose are  
individually also comparatively complicated  
50 and must be especially designed for each  
case. Moreover devices have been developed

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in the manner hereto so that as a result of the  
same surface area they have the same action  
as cut tobacco with regard to the removal of  
objectionable smoke substances but are  
65 cheaper and are also much simpler and  
cheaper in production both of the shreds as  
also of the filter as a whole, moreover a more  
intensive dispersal of the objectional smoke  
components is obtained than for example  
70 with the straight flow passages of spirally  
wound filter inserts. Thereby the smoker  
does not have the feeling that he has in the  
mouth a cigarette with a filter, as the tobacco-  
75 like structure of the filter insert gives the im-  
pression of the tobacco in the smoker's  
mouth.

A method for producing filter plugs  
according to the invention with shreds of  
80 material which are formed to a rod in an en-  
closing hull as in cigarette rod machines is  
characterised in that the shreds are impreg-  
nated with chemical media eliminating ob-  
jectionable taste and hindering them from  
85 falling out of the hull and filter pieces cut  
from such rod are subsequently counted or  
weighed. The filter insert cut in this way and  
according to the material available (paper,  
cellulose, textiles, synthetic substances and  
90 so on) and the selected cut width, may have  
the same elasticity as tobacco.

An important feature of the invention is  
that these filter material shreds are produced  
by tobacco cutting machines known in the  
95 cigarette industry and with the usual cigar-  
ette rod machines the shreds are formed into  
a continuous travelling rod of the shreds.

The material used is cut on a tobacco cut-  
ting machine and if desired treated or im-  
100 pregnated in the known treatment plant with  
likewise known chemical media. It is how-



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## COMPLETE SPECIFICATION

### Improvements in Filter Plugs for Cigarettes and the like and the methods for the production of such Plugs

We, KURT KORBER and EUGEN KOPER, both German Citizens, trading as KURT KORBER & Co. K.-G., of 139, Weidenbaumsweg, Hamburg-Bergedorf, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

5 The present invention relates to improvements in filter plugs for cigarettes and the like and the methods for the production of such plugs and particularly to plugs or tips of cylindrical form and with a hull or wrapping, such plugs or tips being suitable for cigarettes, cigars, cigarillos or the like. Such plugs or tips are used in order to be able to smoke cigarettes, cigars, cigarillos or the like without damage to the health or to save tobacco. As is known, such filter plugs, with or without hulls or wrappers, are disposed preferably at the rear end of the tobacco body to be smoked or are brought into connection therewith. Thus for example filters are known with essentially straight smoke passages which comprise spirally coiled crepe paper, as well as those in which additionally, in like manner, there is rolled between the turns a second layer for example of cotton wool. Another type of filter mouthpiece with essentially coiled smoke passages is such that for example in a paper mouthpiece a plug, especially of fibrous material of various types, is inserted, like wadding, cotton wool, bast fibres, paper, web-like fibrous substances, canvas, cellulose, asbestos or also sponge, viscose sponge or wood wool or carbon. In this case the said substances may additionally be treated with chemical media in order to absorb from the smoke the components which are objectional to the smoker, such for example as nicotine, ammonia or the like.

The production of these plugs is in general complicated, whether they are rolled, coiled, gummed or formed to a cord or several components are laid together and twisted. The devices for this purpose are individually also comparatively complicated and must be especially designed for each case. Moreover devices have been developed

for the production of smoke filter plugs in continuous rod processes, in which for example individual strips of material or crepe paper strips are formed to filters successively one after the other in longitudinal direction and inserted in a continuous hull or wrapping.

The invention aims at providing as a filling for a filter plug the use of shreds of material which have the structure of cut tobacco and are distributed in the plug in like manner thereto so that as a result of the same surface area they have the same action as cut tobacco with regard to the removal of objectionable smoke substances but are cheaper and are also much simpler and cheaper in production both of the shreds as also of the filter as a whole, moreover a more intensive dispersal of the objectional smoke components is obtained than for example with the straight flow passages of spirally wound filter inserts. Thereby the smoker does not have the feeling that he has in the mouth a cigarette with a filter, as the tobacco-like structure of the filter insert gives the impression of the tobacco in the smoker's mouth.

A method for producing filter plugs according to the invention with shreds of material which are formed to a rod in an enclosing hull as in cigarette rod machines is characterised in that the shreds are impregnated with chemical media eliminating objectionable taste and hindering them from falling out of the hull and filter pieces cut from such rod are subsequently counted or weighed. The filter insert cut in this way and according to the material available (paper, cellulose, textiles, synthetic substances and so on) and the selected cut width, may have the same elasticity as tobacco.

An important feature of the invention is that these filter material shreds are produced by tobacco cutting machines known in the cigarette industry and with the usual cigarette rod machines the shreds are formed into a continuous travelling rod of the shreds.

The material used is cut on a tobacco cutting machine and if desired treated or impregnated in the known treatment plant with likewise known chemical media. It is how-

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ever also possible to treat or impregnate the filter material before the cutting process with the said chemical media. The filter shreds produced then pass into the known cigarette rod machine.

One method of producing filter plugs according to the present invention is shown diagrammatically on the accompanying drawing wherein:

Fig. 1 shows a side view of the machine and

Fig. 2 is a cross view through the tobacco feed device.

The filter shreds pass first to a receiving container 1 of which the base is formed of an endless conveyor surface 2. Opposite the filling opening of the container 1 there are provided a feed roll 3 and a stripper roll 4 between which the cut shreds are fed onto the conveyor belt 5. Any cut shreds adhering to the roll 4 are brushed off by a brush 6. The shreds are fed to a carding roll 8 below a magnet roll 7 which withdraws any iron particles which may be in the shreds. The periphery of the carding roll 8 is engaged by two presser rolls 9. The shreds are then fed below a comb 10 and between the carding roll 8 and a striker roll 11 and fed to the forming groove 12 in which they are fed by the conveyor belt 13 to a second conveyor belt 14. Over the latter there moves in known manner a paper strip 15 running off the bobbin 15a through the former 14a to a gumming device of known type and the so-en-closed rod element 16 produced from the shreds is thus formed, which, after passing the drying device which in known manner dries off the paper substance, is cut by means of the knife 17 to individual filter mouthpiece plugs 16a. The filter plugs reach the receiving drum 18 where they are weighed or counted.

The filter plugs can be coloured as desired and may receive appropriate printing. The hull or wrapping can be formed, besides paper, also of cellulose, textiles, synthetic materials or the like and additionally it may be treated or combined with a chemical substance of known kind, having for example a glow retarding action.

The filter plugs, with or without additional hulls or wrappers are combined in suitable

manner with the tobacco body of the cigarette or the like.

What we claim is:—

1. Method for producing smoke filter plugs of cylindrical form for cigarettes, cigars, cigarillos or the like with shreds of material which are formed to a rod in an enclosing hull as in cigarette rod machines characterised in that the shreds are impregnated with chemical media eliminating objectionable taste and hindering them from falling out of the hull and filter pieces cut from such rod are subsequently counted or weighed.

2. Smoke filter plugs of cylindrical form with a hull or wrapper for cigarettes, cigars, cigarillos or the like and produced according to the method of Claim 1, characterised in that the contents of the plugs comprise shreds of material such as paper, cellulose, textiles, synthetic materials or the like, which shreds have a similar structure to cut tobacco and can be formed into a continuous stream in like manner.

3. Method for producing smoke filter plugs according to Claim 2, characterised in that the shreds are cut on a tobacco or other suitable cutting machine.

4. Smoke filter plugs according to Claim 2, characterised in that plugs with or without additional hulls or wrappers are combined in suitable manner with the tobacco body of the cigarette or the like.

5. Smoke filter plugs according to Claim 2 or 4, characterised in that the filter hull or wrapper consists of one or other of suitable substances such for example as paper, cellulose, textiles, synthetic materials or the like and additionally it is treated or combined with a chemical substance of known kind having for example a glow retarding action.

6. Smoke filter plug according to Claim 2, 4, or 5 characterised in that the filter wrapping is coloured as desired or printed.

7. Smoke filter plugs or tips and the methods for producing them substantially as herein described and illustrated.

WHEATLEY & MACKENZIE,  
Coolcower House, Banstead Road,  
Banstead, Surrey,  
Agents.

Fig. 1

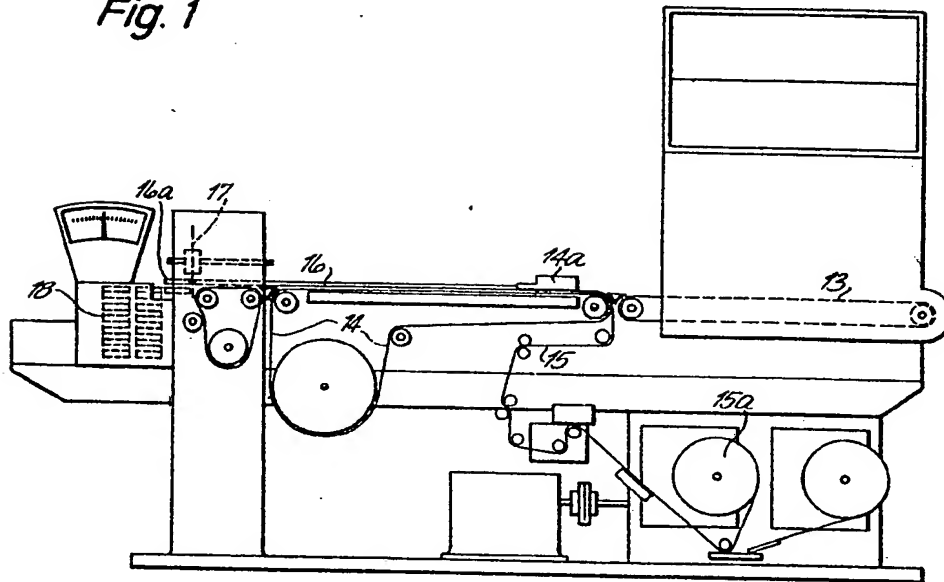


Fig. 2

